Renewable Energy Massachusetts

November 5, 2009

To: Massachusetts Department of Energy Resources
Re: S-REC Program Design - Comments

We applaud the creative efforts of the DOER in its October 23, 2009 S-REC program design. The proposal seeks to harmonize the long-term financing needs of solar development in Massachusetts with the concerns about long-term contracts expressed by the Massachusetts electric distribution companies ("Distribution Companies").

We are grateful for the opportunity to submit these written comments in response to the October 23rd S-REC proposal and look forward to seeing the S-REC program launch on January 1, 2010.

I. Responses to Potential Rapid Solar Deployment

Our greatest concern with the S-REC proposal is that the program imposes limitations on the solar market place that may over time serve to stunt the rapid deployment of solar in Massachusetts. Given the recent experience in Vermont in relation to that state's creation of a 30 cent per kWh feed-in tariff (in which over 200MW of proposals competed for 12.5MW of feed-in program capacity), we worry that the DOER may in the end not permit enough growth if it were to impose Minimum Standard limits of 20MW in 2010, 26MW in 2011, 34MW in 2012, etc. Among the factors that could spur faster solar development in Massachusetts than currently forecast include: (a) the number of larger projects may grow rapidly with federal and state incentives finalized; (b) the market prices of PV and other materials may continue to drop significantly; and (c) the attractiveness of the Massachusetts S-REC pricing structure. 40MW built in 2011, for example, would be an excellent outcome and one that we believe the DOER should encourage through a more flexible allowance of rapid solar development in Massachusetts rather than the proposed attempt to limit development by curtailing DOER Auction access.

Recommendation #1: Increase the Permitted Annual Growth Factor of the Minimum Standard from the Proposed 30% up to a 200% rate

We predict that the Massachusetts solar growth rate will be faster than 30% per annum and believe that DOER should have the flexibility to adapt to industry growth. The primary reason to impose a growth limit is to make the compliance financial planning easier on the Distribution Companies. But a solar growth rate of 200%, for example, from 20MW to 40MW, is entirely predictable given the incentives being created. Whether a 30% or a 200% growth rate is permitted, either way the Distribution Companies will be paying for the underlying S-RECs as they come on line. The only question is when those payments will be made and whether the Distribution Companies will have sufficient advance notice each year to plan appropriately, to participate in the forward S-REC market, and to buy S-RECs at the annual DOER Auction.

By July 30th of each year, the DOER will have a reasonably strong indication of each year's solar build out rate (both as evidenced by new solar already installed in the first seven months of the year, by development trends in prior years, and by GIS participation applications submitted for installations anticipated through year end). If the DOER made its

Minimum Standard announcement for each year by August 1st of the preceding year, we predict that the Distribution Companies would have not only sufficient financial resources and time (17 months until the obligation must be satisfied), but also transaction opportunity (open market purchases and DOER Auction purchases of long-life S-RECs) to purchase sufficient S-RECs to satisfy a rapidly expanding Minimum Standard. The DOER could also use a sliding-scale growth rate to accommodate higher growth rates in the early years followed by slower growth rates as the program matures.

Recommendation #2: Remove the Auction Term Reduction Penalty

The October 23rd proposal proposes potentially meaningful financial penalties upon developers, in the form of reducing future solar projects' term of opt-in access to future DOER S-REC Auctions (the "Auction Opt-in Term") if a particular year produces "excess" S-RECs beyond the Minimum Standard. At first impression, it is not entirely clear that the formulaic reduction of the Auction Term from ten (10) years down to eight (8), seven (7) or six (6) years will in fact slow down new solar development in the year following an "excess" S-REC crop. We respectfully encourage the DOER to remove its proposed Auction Opt-in Term reduction provision altogether.

Questions about the Effectiveness of the Auction Brake: First, there may be other compelling market forces (such as the race to realize the financial advantages of the Federal Investment Tax Credit cash grant, or another federal incentive, prior to its expiration) that may drive development irrespective of the DOER's change in the Auction Opt-in Term. Second, Massachusetts developers may decide that, since there is no guarantee that ensuing year(s) would not similarly produce "excess" S-RECs -- and therefore be subject to similar reductions in Auction Opt-in Terms -- they should instead proceed to develop projects as fast as possible and realize as much S-REC value as possible without delay. This is particularly true in light of the fact that the S-REC program has a finite duration. Lastly, "excess" S-RECs may to some extent reflect aggressive REC-banking practices of or solar generation owned by Distribution Companies, and thus be forces outside the control of developers.

Unfair Punishment: The reduction formula is both punitive and, for the reasons stated above, unlikely to meaningfully alter development decisions. On the other hand, it will most certainly pick out and punish a relatively random, unlucky number of solar developers in a particular year who happen to have the misfortune to have proceeded with a project in the year following a bumper solar crop. Why should these developers and their investors be penalized with less than a full ten (10) year Auction Opt-in Term while the prior year's aggressive developers remain financially unharmed? Why not instead let more solar be built faster?

If an Auction Opt-in Term reduction clause must be used, we respectfully encourage the DOER to limit reduction to no fewer than eight (8) years Auction Opt-in Term so as to minimize punishment of actors who are ultimately achieving the program's larger policy objectives.

Recommendation #3: Consider a Rollover S-REC Program. Alternatively, to the extent the DOER seeks to maintain a control on S-REC supply, perhaps a clearly visible rollover S-REC structure should be considered. Table 1 below shows how such a rollover program could manage faster growth rates. One issue with a rollover program is how the DOER would fairly distribute sales of S-RECs at the annual auction. In our proposed structure, all

solar facilities would report their sales of S-RECs during the year ("In-Year Sales"). The In-Year Sales would be deducted from each facility's allocated percentage of the year's targeted S-RECs, on the grounds that the In-Year sellers would have already realized revenues at acceptable rates faster. Then, having recalculated each entrant's proportionate share of the Auction, the final amount of total DOER Auction S-RECs sold would be allocated on a prorated basis among the DOER Auction approved facilities. "Excess" S-RECs over and above the DOER Auction quantity would be re-minted and carried over to the next year for repeat In-Year Sale and, failing sale in the market, would be sold in a first priority round at the fixed price in the following year's DOER Auction. In this way, all Excess S-RECs would eventually be sold for value and the effective "brake" on new solar development would be the time-loss financial impact imposed by delayed S-REC revenues.

The system as a whole would enjoy several benefits: (a) full transparency to give all market participants a clear view of potential delays of portions of their annual S-REC revenue models; (b) proportionate distribution of S-REC revenues among all participants based upon their facility size; and (c) the financial modeling security that all participants will within one year's delay get full monetary value for their S-REC production (albeit modestly reduced by between 1 and 12 months of inflation). In the table below, which depicts a highly rapid growth rate, one can see that approximately 25% of the industry's S-RECs would be carried over each year into the next year's S-REC market. Slower growth rates would produce fewer carryover S-RECs.

Table 1: Rollover S-REC Program: *Sample* Mechanics of the First Six (6) Years with Faster Program Growth Rates

Year	Carryover S-RECs from Prior Year	*Targeted* New Solar (MW)	Solar Min. Std. Growth Rate %	Targeted S-RECs (at a 14% Capacity Factor)	*Actual* New Solar (MW)	Actual New S-RECs Produced	Total S-RECs in Market (Carryover + New)	Carryover S-RECs to Next Year
2010	-	20	-	24,550	26	31,915	31,915	7,365
2011	7,365	40	200%	49,100	44	54,010	61,375	12,275
2012	12,275	60	50%	73,650	68	83,470	95,745	22,095
2013	22,095	70	16.7%	85,925	76	93,290	115,385	29,460
2014	29,460	80	14.3%	98,200	84	103,110	132,570	34,370
2015	34,370	90	12.5%	110,475	98	120,295	154,665	44,190
	Totals:	360			396			

II. Disaggregate Utility Solar from Independent Development Solar

We would like to highlight certain market distortions that would result from the proposed inclusion of Distribution Company Solar in the S-REC program.

Fact 1: The Distribution Companies have significant solar generation execution advantages over non-regulated entities, namely (a) profits from solar guaranteed by rate payers and the DPU; (b) access to large quantities of inexpensive capital; (c) large volumes of sites under their control; (d) speed to execution, and others. The likely response of the Distribution

Companies will be to build out as much solar as fast as possible and thereby avoid paying the S-REC premiums and ACP penalties that will be charged courtesy of the DOER program.

Fact 2: It is possible that the Legislature will decline in 2012 to renew the solar ownership authority it has granted (up to 50 megawatts each) to the Distribution Companies. This leaves a total potential development of up to 150 megawatts of utility-owned solar uncertain as to final construction and thereby makes forecasting the future Massachusetts solar market opportunity highly unpredictable for developers and their financial partners.

Fact 3: As to S-RECs produced by their in-house, owned solar facilities, the Distribution Companies are unlikely to participate in the sale of S-RECs or in the DOER Auction, insofar as these in-house S-RECs would most likely be banked for internal compliance obligations so as to reduce these companies' S-REC purchase requirements or S-ACP exposure.

Given the very real likelihood of the development of very large Distribution Company Solar facilities, and the distorting effects of their S-REC production or absence, we respectfully ask the DOER to reconsider the program design in one simple, but profound way:

Our recommendation: Create two separate classes of S-RECs (Class A and Class D): Class A S-RECs would be those created by Independent Solar Generation Facilities and would be sold in the marketplace and at DOER Auctions. Class D S-RECs would be those created by Distribution Company Solar and for which there would be no tradable market value – in essence the Class D value would be derived from their ability to offset compliance obligations. The Class A S-REC program would have a Minimum Standard Cap of 400MW.

The Class D S-RECs, accordingly, would have a development schedule and its own final program cap (100 MW? 150 MW?) that the DOER and the Distribution Companies would separately agree upon in proceedings independent of the Class A S-RECs.

The Class D S-REC program would terminate in two events: (i) reaching the agreed upon cap; or (ii) the elimination by the Legislature of the authority for Distribution Companies to build and own further solar facilities.

Among the Benefits of Two Classes of S-RECs:

(a) Market size certainty and S-REC demand certainty for all Independent Solar Developers;
(b) Avoid the disruption potential of having 100-150 MW of prospective solar projects lose their construction license from the state legislature
(c) Prevent market distortions as between large, regulated, highly capitalized entities and smaller, independent entities seeking to build out a vibrant, long-term Massachusetts-based solar industry
(d) Level the playing fields. Large utilities play in one Class D, while smaller independent solar developers play in their separate Class A arena.

III. Provide Visibility of the Relationship between the S-ACP Rate and DOER Fixed Auction Price

In order to properly entice the Distribution Companies to participate aggressively in the annual auctions, the DOER should be explicit in its final program regulations to establish a

policy that multiple years' future Solar ACP rates will always be both (a) known at the time of DOER Auction and (b) meaningfully higher than the DOER Auction fixed price.

IV. Rollover Qualification Opportunity for 4th Quarter Solar Generation Entrants

To equalize the S-REC trading opportunity among all solar projects, we would encourage the DOER in its final regulations to allow new solar facilities that enter service during the calendar fourth quarter each year of the program the option to elect to enter the Auction Opt-in Term in the year following their entry of service. It does not appear fair that fourth quarter facilities that have the misfortune of only 1-3 months of In-Year Sales should be forced to sell all of their S-RECs into the DOER Auction at the end of their first calendar quarter of existence. They should instead be placed on equal footing and enjoy the same robust market trading opportunities during the following year, just as all the other participants in the S-REC marketplace will have done during the nine months before their service entry.

V. Explicitly Signal Duration of Participation Rights in the S-REC Program

As we are currently in the process of describing the S-REC program to financial institutions, we believe a clearer statement is needed at the earliest opportunity to clarify the Minimum Standard and termination provisions of the S-REC program. On page 3 of the "Program Design and Analysis Document" of October 23rd, the DOER states:

> **When the cap is reached, the qualification of additional solar installations will be transferred to the RPS Class I Program, and the Minimum Standard for the Solar Carve-Out will remain constant at the cap level. The Minimum Standard and Carve-Out program will remain in place until such time as the full terms of all S-RECs that have access to the Auction Account have expired and the remaining years of shelf life of the Extended Life S-RECs from the Auction have passed.**

We would appreciate clarification as to the meaning of the quoted phrase the "Carve-Out program will remain in place" and that the Minimum Standard "will remain constant at the cap level." The simple question is whether solar facilities that are built and qualified for the S-REC program prior to the Cap can sell S-RECs for only a ten (10) year window or whether they can continue to sell S-RECs for so long as the "program continues." The confusion surrounds how the Distribution Companies will continue to comply with a 400MW "constant" Minimum Standard if the full 400MW of solar facilities built during the S-REC program are not selling them RECs?

As an example, assume that the Cap is reached in 2017 (the 8th year of the S-REC program) and furthermore, assume that the full Auction Account term of all new solar facilities in 2017 were in effect for a full term of ten (10) years (i.e., through 2026). Based on the foregoing assumptions, would a solar facility that began service and was qualified for the Auction Account in 2010 be permitted to sell S-RECs in the open market (i.e., not at the DOER Auction) until the termination of the program in 2026? If the answer is "yes", would the same answer hold true for all the other solar facilities built in all of the years between 2010 and Cap-achievement in 2017? We appreciate the DOER's clarification of this issue in simple terms that we can relay to counterparties and financial institutions that need to understand the forthcoming program.

We are grateful for the opportunity to provide comments on the S-REC program and thank the DOER again for taking the strong leadership role in launching this program so expeditiously.

Sincerely,

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